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ABSTRACT

Materials are presented to assist local school personnel in the adoption of successful programs and services for gifted and talented pupils. Articles offering solutions to problems in, or suggesting ideas and guidelines for, educational programing include the broadening concepts of giftedness, by E. Paul Torrance; justification for special programs, and initial practical requirements for developing local programs, both by Virgil S. Ward; homogeneous grouping, by Walter B. Barbe; a plan for identification, by John C. Gowan; acceleration, by Mary M. Pilch; and seven essentials of programs, by Joseph S. Renzulli. Other articles furnish lists of questions for staff evaluation of the gifted problem, outline the role of local administrators and of the state department of education, suggest criteria by which to guide programs, and list some of the current practices being followed in programing in the nation's secondary schools. How the teacher can further creativity is the subject of material adapted from E. Paul Torrance and from John C. Gowan and George D. Demos. Several school systems and special projects in Connecticut and Massachusetts are recommended for visitation, and guidelines for Connecticut administrators, based upon legislative enactments, are suggested. (WG)

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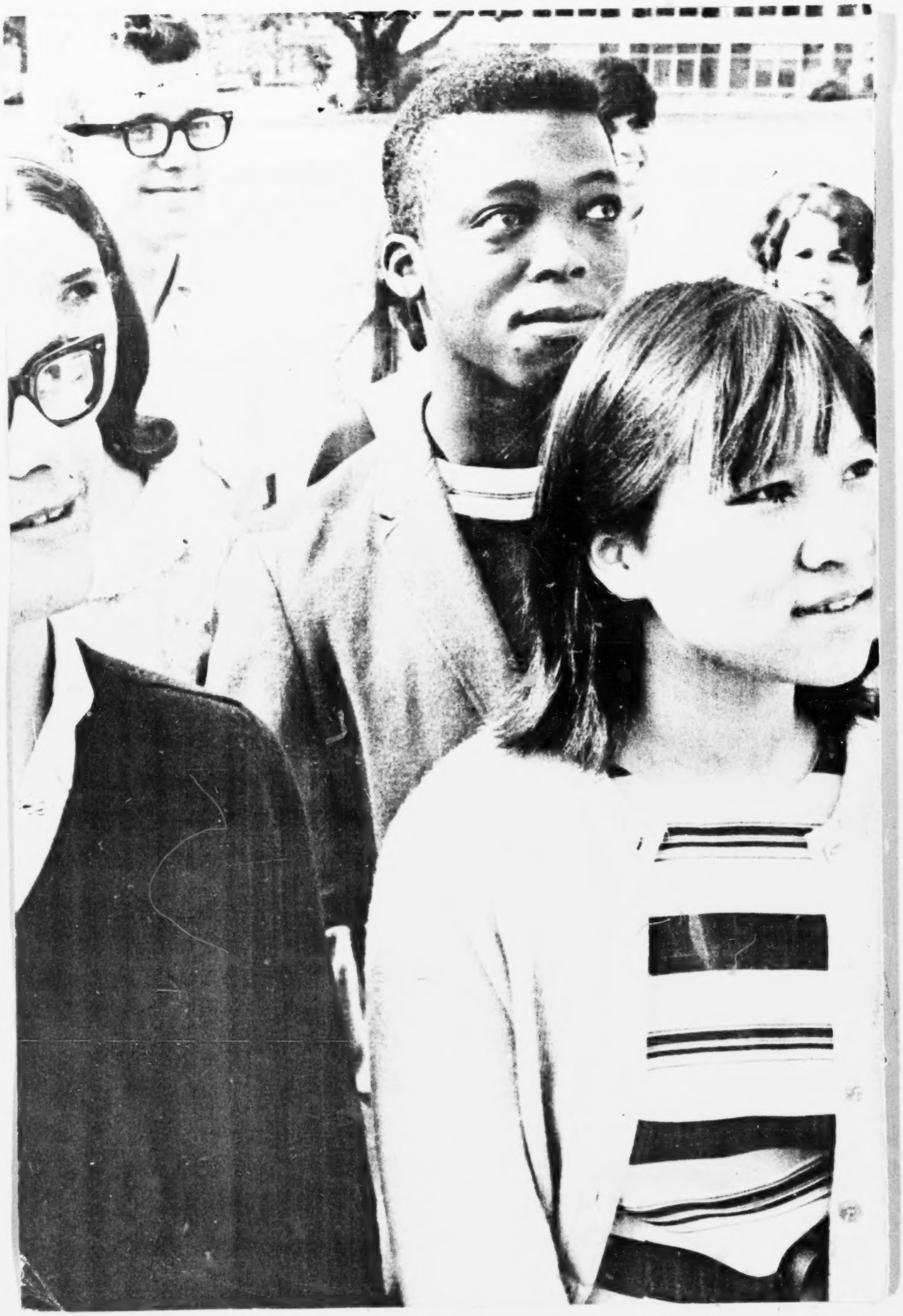
The Gifted Child In Connecticut

Practical Suggestions for Program Development



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The Gifted Child In Connecticut

Practical Suggestions for Program Development

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Foreword

These materials concerning the gifted child in Connecticut are, as the name implies, practical suggestions for the development of programs and services for gifted and talented pupils within our local school districts. This handbook has been prepared through the cooperative efforts of Joseph S. Renzulli, Assistant Professor at the University of Connecticut, and William G. Vassar, consultant for the gifted and talented in the State Department of Education. More and more our local school districts have come to recognize the importance of providing challenging and innovative programs for our gifted and talented children.

It is our hope that this handbook will provide some small assistance to the local school teachers and administrators in their work with these exceptional children.

—Francis A. McElaney, *Chief,*
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Special Educational Services

Introduction

New and imaginative strategies for meeting the educational needs of gifted and talented students are beginning to play an increasingly significant role in the overall progress of education in Connecticut. Yesterday's dream of providing all students with an educational program that is uniquely suited to their needs and capacities is emerging as today's reality. And schoolmen throughout the state have graciously accepted the challenge of developing differential programs for students with vastly divergent levels of learning potential. Through the enactment of Public Act 627, "An Act Concerning the Provision of Special Education," the means for realizing the dream of comprehensive programming for all students have been made manifest. Connecticut's potential emergence as a national leader in the area of education for exceptional children is limited only by the initiative and imagination of those persons who have been entrusted with the responsibility of educating the state's youth.

One of the functions of the State Department of Education is to furnish school personnel with information and ideas that will assist them in program development. The dissemination of timely materials is intended to facilitate communication within the profession and to keep teachers and administrators in contact with a rapidly expanding body of professional literature. The large increase in the segment of the literature dealing with the gifted and the diversity of sources from which these materials emanate act as deterrents to easy access of information by persons who are attempting to broaden their perspective in this area.

The purpose of this publication is to provide the reader with ideas and guidelines for the development of programs in the local school. The editors have attempted to choose materials that are suggested solutions to common problems in educational programing for the gifted. The content is avowedly selective and focuses on topics that are of practical value in making decisions relevant to program

development. Descriptions of exemplary programs are intended to generate ideas. Legislative and bibliographic information is included for purposes of reference. No attempt has been made to duplicate the textbooks or excellent collections of readings that exist in this area. The limitations imposed by the size of the publication prohibit exhaustive coverage within the scope of the purpose of the work.

Emerging Concepts Of Giftedness

By E. Paul Torrance,* University of Georgia

Many teachers, school administrators, counselors, school psychologists and parents complain that there is no commonly accepted definition of giftedness, even among national and international authorities. When educational and civic leaders plead for support for programs for educating teachers of gifted children or for appropriate educational programs for gifted children, many legislators oppose such support, arguing that not even the experts know how to identify those who are gifted. They contend that if there is disagreement about identifying the gifted, it is futile to attempt to educate teachers especially for the gifted and to provide special kinds of educational opportunities for them.

The problem, strangely, is not that the experts do not know how to identify gifted children, nor even that there is any genuine disagreement among the national and international authorities. The truth is that we have been expanding our concept of giftedness and that we have been learning an increasingly large number of ways of identifying a greater number of different kinds of gifted children.

Another problem is that many of those who have sought support for programs for gifted children have had fixed notions about giftedness. In many cases their ideas have been so patently erroneous that their proposals have not made sense to legislators and other would-be supporters. In some cases, these fixed ideas have centered around one type of giftedness, usually the type identified by an intelligence test and represented by the index known as the IQ. Until recently, there has been little support for Paul Witty's 1951 definition of giftedness as "consistently superior performance in any socially useful endeavor." Others have been overconcerned about the

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degree of giftedness and have argued that the gifted must have IQ's of 180, 150, 140, or some other figure. From arguments around this point, there has arisen a great deal of confusing terminology, such as "genius," "highly gifted," "extremely gifted," "moderately gifted," "talented," and the like. Other arguments have centered around the fixity of the intelligence quotient.

Generally, however, serious students of the problem of educating gifted children agree that our expanding knowledge makes it clear that the problem is complex, but not necessarily confusing. It is quite clear that there is a variety of giftedness that should be cultivated and is not ordinarily cultivated without special efforts. It is clear that if we establish a level on some single measure of giftedness, we eliminate many extremely gifted individuals on other measures of giftedness. It is also clear that intelligence may increase or decrease, at least in terms of available methods of assessing it, depending upon a variety of physical and psychological factors both within the individual child and within his environment.

The complexity engendered by our expanding knowledge of the human mind and its functioning should be exciting and challenging rather than confusing. The author hopes that the reader will find it so because this is the nature of things as teachers and parents experience them in trying to educate gifted children. Furthermore, this complex view of the nature of giftedness permeates this paper.

A Complex View of Giftedness

The acceptance of a realistically complex view of the human mind is itself a tremendous advance. In moving from an oversimplified (and patently erroneous) view of giftedness to a more complex one, we have reached a position where we can avoid many of the errors of the past. We should be able to develop a more humane kind of education for gifted children—one in which children will have a better chance to achieve their potentialities.

This more complex view of giftedness is causing us to re-evaluate many of the classical experiments upon which

we have built educational practices. It is becoming clear that children should be provided opportunities for mastering a variety of learning and thinking skills according to a variety of methods and that the outcomes of these efforts should be evaluated in a variety of ways.

It is to be hoped that young teachers, as well as experienced educational leaders, will not be impatient with the complexity or the incompleteness of knowledge about giftedness. We do not yet know the end of the complexity of the functioning of the human mind and personality. The author is inspired by the conviction that it is high time that we begin developing the strategies, methods, and materials that have built into them an acceptance of this complexity. In large part it is derived from the author and his associates' experimental work with gifted children.

The author has continued to be increasingly impressed by the wonderful complexity of this single aspect of man's intellectual functioning. Many fascinating insights concerning the functioning of children's minds occur even when we limit ourselves to the examination of such qualities of thinking as fluency of ideas, spontaneous flexibility, originality, and elaboration. Some children are exceptionally fluent in the production of ideas expressed in words but are unable to express ideas in figural or auditory symbols. Others may be tremendously fluent in expressing ideas in figural form but appear paralyzed mentally when asked to express them in words or sounds. Similar phenomena seem to occur when we consider creative movement or kinesthetic behavior.

A child may not be able to express his ideas verbally, visually, or any other way with a great deal of fluency and yet be quite gifted in other kinds of constructive, creative behavior. He may produce a small number of ideas, but each idea may be quite original or unusual and of high quality. He may be able to take a single idea and do an outstanding job of elaborating or expanding it, or he may produce ideas which show a great deal of flexibility of thinking.

The complexity of children's creative thinking does not end here. A child might respond quite creatively to one

task and barely respond to another. For example, some children show tremendous originality and elaboration on the Incomplete Figures Test and respond very poorly to the Circles Test and vice versa (Torrance, 1962a). The Incomplete Figures Test confronts the child with incomplete structures, and this produces tension in most observers, making them want to complete the structures and integrate or synthesize their relatively unrelated elements. The pages of circles of the Circles Test, however, confront the subject with "perfect structures." In order to produce pictures and objects which have as a major part a circle, the child has to disrupt or destroy these "perfect structures," the circles. In the creative process there seems to be an essential tension between the two opposing tendencies symbolized by these two tasks: the tendency toward structuring and synthesizing and the tendency toward disruption and diffusion of energy and attention. Most children seem able to express both tendencies with equal skill, but others seem able to express only one of these tendencies to any great degree.

The author has mentioned here only a few of the ways he has devised for measuring the mental abilities involved in creative thinking, yet he realizes that he has only begun to represent psychometrically the different ways children can express their creative giftedness.

Scientific Bases of Emerging Concepts

Away from Concepts of a Single Kind of Giftedness

Many educators and psychologists have been struggling for years to tear themselves away from concepts of a single type of giftedness. The difficulty has been in finding a way to conceptualize the various kinds of intellectual giftedness and to develop measures of the different kinds of mental abilities involved. For example, on the basis of the report of the Norwood Committee in England (Burt, 1958), the Education Act of 1944 in that country gave recognition to the hypothesis that there are different kinds of intellectual giftedness. Burt, in fact, maintains that the Education Act of 1944 assumes that children differ more in quality of ability than in amount. This act recommended a tripartite

classification of secondary school, based on the idea that there are three main types of giftedness: a literary or abstract type to be educated at grammar schools, a mechanical or technical type to be educated at technical schools, and a concrete or practical type to be educated at modern schools. Burt argues that this scheme has not worked out as well as had been hoped. This may well be due, however, to still another oversimplification of the problem. Many believe, nevertheless, that this tripartite system in England is much more successful than earlier systems based on a single type of giftedness.

Guilford's structure of intellect (1956, 1959) and research related to the creative thinking or divergent production abilities have been especially effective in directing educators and psychologists away from their dependence upon a single measure of giftedness. Guilford has given us what amounts virtually to a periodic table of different kinds of intelligence. His theoretical model of the structure of intellect has three dimensions: operations, contents, and products.

In this model the operations are the major kinds of intellectual activities or processes, the things that the organism does with the raw materials of information. The first, *cognition*, includes discovery, awareness, recognition, comprehension, or understanding. The second, *memory*, refers to retention or storage, with some degree of availability, of information. Then there are two types of *productive thinking* in which something is produced from what has been cognized or memorized: *divergent production*, or the generation of information from given information, where emphasis is upon variety and quantity of output from the same source, and *convergent production*, or the generation of information where emphasis is upon achieving unique or conventionally accepted best outcomes (the given information fully determines the response). The fifth operation is *evaluation*, reaching decisions or making judgments concerning the correctness, suitability, adequacy, desirability, and so forth of information in terms of criteria of identity, consistency, and goal satisfaction.

These five operations act upon each of the kinds of content (figural, symbolic, semantic, and behavioral) and

products (units, classes, systems, transformations, and implications).

In this article the term *productive thinking* is used to refer to what Guilford has defined as *convergent production* and *divergent production.* The term *creative thinking* will be used to refer to such abilities as fluency (large number of ideas), flexibility (variety of different approaches or categories of ideas), originality (unusual, off-the-beaten track ideas), elaboration (well developed and detailed ideas) sensitivity to defects and problems, and redefinition (perceiving in a way different from the usual, established, or intended way or use). *Measured creative thinking ability* will be used to refer to test scores which have been devised to assess these abilities.

Guilford and his associates' monumental work remained almost totally neglected by educators until Getzels and Jackson (1962) showed that highly creative or divergent thinking adolescents achieved as well as their highly intelligent peers, in spite of the fact that their average IQ was 23 points lower. Since at least 1898, psychologists had been producing instruments for assessing the creative-thinking abilities, making pleas for using such measures to supplement intelligence tests and recommending educational changes needed to develop creative talent. In the main these earlier efforts to generate interest in creative development and other types of intellectual functioning not represented by intelligence tests were ignored or soon forgotten. Many of these earlier efforts are receiving attention now.

The ideas presented have almost infinite possibilities for use with a variety of types of gifted children. It is to be expected that in the hands of some groups of gifted children the line of development from these methods and materials will be quite different from what will ensue in other groups. These materials and methods rarely require that specific questions be answered in a given way. It is to be hoped that teachers will not give severe disapproval when children answer questions or offer solutions to problems in a different way or ask different, more penetrating questions. Such questions and solutions are essential in many kinds of gifted performance.

Single studies such as those of Getzels and Jackson (1962) always leave many questions unanswered. Since the Getzels-Jackson data were obtained from a single school, one with an unusually large number of gifted students, their study did not tell us under what conditions their results could be anticipated. This author and his associates have undertaken fifteen partial replications of the Getzels-Jackson study, hoping to obtain some clues to answer this question. In ten of these studies the results have been essentially the same as in the Getzels-Jackson study. In the other five the high IQ group scored significantly higher than the highly creative group on tests of achievement. In general it has been our impression that the children in these five schools were taught primarily by methods of authority and had very little chance to use their creative-thinking abilities in acquiring educational skills. In most the average IQ was lower than in the schools where the Getzels-Jackson results were confirmed. These observations suggested that the phenomena Getzels and Jackson report may occur only in schools where students are taught in such a way that they have a chance to use their creative-thinking abilities in acquiring traditional educational skills or where the average IQ in the entire school is rather high.

It was observed that the highly creative pupils in at least two of the five divergent schools overachieved in the sense that their educational quotients were considerably higher than their intelligence quotients. Thus we thought that an ability gradient might be operating. According to the concept of the ability gradient suggested by J. E. Anderson (1960), ability level can be thought of in terms of thresholds, and questions can be asked about the amount of the ability necessary to accomplish a task. Then consideration can be given to the factors that determine function beyond this threshold. There are cutoff points of levels about which the demonstration of ability in relation to minimum demands is determined by other factors. In other words the creative-thinking abilities might show their differential effects only beyond certain minimal levels of intelligence.

To test this possibility, Yamamoto (1964), in one of the Minnesota studies of creative thinking, re-analyzed the

data from six of the partial replications already mentioned. In each case, students who scored in the top 20 per cent on the test of creative thinking were divided into three groups according to IQ (above 130, 120 to 129, and below 120). In general the achievement of the first two groups did not differ from each other, but was significantly higher than that of the third group (IQ below 120). This finding supports suggestions made previously by several people, including this author (Torrance, 1962a), Roe (1960), and MacKinnon (1961).

Still almost unnoticed by educators is that part of the Getzels-Jackson study (1962) dealing with two kinds of psychosocial excellence or giftedness—that is, high social adjustment and high moral courage. It was found that just as the highly intelligent student is not always highly creative, the highly adjusted student is not always highly moral. Further it was found that although the highly moral students achieved at a higher level than the highly adjusted students, the teachers perceived the highly adjusted students as the leaders rather than the highly moral ones. This is especially significant in a peer-oriented culture such as we have in the United States. It is well to recognize the dangers of giving the greater rewards to those who accept the peer-value system and adjust almost automatically to the immediate group, almost without reference to moral values.

It is the contention of the author that we can do a better job of helping children achieve excellence in both social adjustment and moral courage.

Away from Concepts of Fixed Intelligence

From time to time investigators have assaulted the concept of fixed intelligence. Despite this the view that intelligence is a capacity fixed once and for all by genetic inheritance is still held quite widely. Indeed a great deal of empirical evidence seems at first glance to support the idea of fixed intelligence. Recently, however, Hunt (1961) proposed alternative explanations and summarized evidence which undermines this hypothesis.

It has been shown that performance (scores, not IQ) on the Binet-type intelligence tests improves with age.

Age-discrimination, however, was one of the criteria Binet used in selecting items. Although Binet himself (1909) regarded intelligence as "plastic," the fact that performance on tests selected on age-discrimination criteria showed improvement with age has been used to conclude that development is predetermined by genetic inheritance. Another argument has been that individual children show considerable constancy from one intelligence test to another. Since all intelligence tests traditionally have been validated against the Binet-type test, this is to be expected. It has also been shown that there are high intercorrelations among the various Binet-type tests, and this has been presented as evidence in favor of a high "g" (general ability) factor. Another argument of the adherents of fixed intelligence has been based on evidence which shows that intelligence tests are fairly good predictors of school achievement. Since curricula and achievement tests have been based on the intelligence-test concept of the human mind, this, too, is to be expected.

Studies involving hereditary versus environmental determination also have been used to support the idea of fixed intelligence. The evidence here, however, frequently has not supported the idea of fixed intelligence. Both hereditary and environmental influences interact in determining mental growth and educational achievement.

Hunt (1961) has summarized evidence from studies of identical twins reared apart, from repeated testing of the same children in longitudinal studies, and from studies of the effects of training or guided, planned learning experiences. He believes that studies of the constancy of the IQ within individuals pose the most serious challenge to fixed intelligence. These include studies both of the stability with which individuals maintain their positions within a given group of individuals from one testing to another testing and of the variations of IQ within specific individuals.

Studies of the effects of schooling have been fairly convincing. Out of a group of people tested at some earlier age, those who complete the most schooling show the greatest increases and fewest decreases in IQ. Hunt

cites studies by Lorge (1945), Vernon (1948), and De-Groot (1948, 1951). In the area of early environmental influences, Hunt mentions the sustained work of Wellman, Skeels, and their colleagues of the Iowa group. This group continued their studies over many years, demonstrating many of the effects of training at the kindergarten and nursery level. The studies of Spitz (1945, 1946) have been quite influential in convincing psychiatrists and social caseworkers that intelligence is plastic and modifiable, not fixed and that mothering is crucial during the early years of life. Children deprived of social interaction or mothering fail to develop naturally either physically or mentally.

Away From Beliefs in Predetermined Development

Long-standing beliefs in predetermined development have been used frequently to support the concept of fixed intelligence. Much evidence, however, indicates that deprivations of experience make a difference in rates of various kinds of growth. The more severe the deprivations of experience have been, the greater has been the decrease in the rates of development.

Arguments concerning inherited patterns of mental growth have also been placed in doubt by the work of Hunt (1961), Ojemann (1948), Ojemann and Pritchett (1963), and others. The evidence seems to indicate that intellectual development is quite different when children are exposed to guided, planned learning experiences from that which occurs when they encounter only what the environment just happens to provide.

This has led to the suggestion that educational programs should be based upon guided, planned experiences which in turn are based upon an analysis of the requirements of the learning task and the condition of the child. Analysis of the task must include a consideration of the structure of the task, possible strategies or processes by which the task can be achieved (alternative ways of learning, kinds of discriminations to be made, and so forth), and the settings or conditions which facilitate or impede achievement of the task (cultural, social, physical, and the like). Analysis of the child's condition should consider the state of development relevant to the

concepts or skills to be learned, the level of relevant abilities, especially the most highly developed ones (memory, logical reasoning, originality, judgments of space, and so forth), and the individual child's preferred ways of learning. The concern is with potentiality rather than norms. Examples of such educational experiences will be outlined in the section on classroom procedures.

Conclusion

In this article an effort has been made to show how recent breakthroughs in research concerning the human mind and personality and their functioning have resulted in the emergence of a new and challenging concept of giftedness. This concept stresses the importance of emphasis upon potentiality rather than upon norms and single measures of giftedness. It involves movement away from concepts of a single type of giftedness and fixed intelligence and beliefs in predetermined development.

Differential Education For the Gifted

By Virgil S. Ward, University of Virginia

Special programs for gifted students that exist throughout the country are not merely the educational playthings of affluent communities. They are solidly grounded in philosophical, psychological, and sociological considerations, some of which have been realized by writers as early as Plato. Special educational provisions for gifted students are a logical and essential part of any total school program which purports to provide for individual differences among its pupils. Not to devote attention to the particular characteristics of bright and talented children, and to provide properly for the nurture of these distinguishing characteristics is, to state it simply, a breach of the democratic ideal. What exactly is the justification for developing special features for the gifted in the total educational program of the local school? The following section is addressed to this question.

One of the objectives of free public education in a democracy is to provide equal opportunity for all youth to develop their potential abilities to the fullest. In attempting to reach this objective, educators have come to the realization that *equal* opportunity does not mean *identical* opportunity. Curricula, methods, and materials that are suitable for youngsters in the middle range of abilities are often not suitable for the mentally retarded. Special provisions of various sorts for mentally retarded children grew out of this realization. These differential programs are now generally recognized as being mandatory, both in terms of pupil abilities and fulfillment of the democratic tenet. The educational rights of a person, if conceived as limitless, offer the broadest forms of return to the society that upholds these rights. The education of bright and talented youth

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should be limited only by their capacity for learning, and this capacity is still largely untapped in the typical American school.

The logic of special education for the gifted is equally compelling. It is based on the following reasoned assumptions and observable facts:

1. Gifted children as a group differ from others in learning ability; they learn faster and remember more, and they tend to think more deeply with and about what they learn.
2. As adults, gifted persons tend to remain similarly advanced beyond the average and tend to assume distinctive social roles as leaders in the reconstruction and advancement of whatever lines of activity they engage in.
3. The regular school curriculum only barely approximates the demands of either the greater learning capacity or the anticipated social roles of gifted persons.
4. An educational program *can* be devised which *does* more adequately meet these basic demands, and which on the whole being uniquely suited to the gifted is both unnecessary for and impossible of accomplishment by students of lesser ability.
5. Differentiated educational provisions for the gifted promise to discover more gifted persons, to improve their education, and to launch them earlier into their chosen careers so that society, as well as the persons themselves, may enjoy longer the fruits of their productive and creative labors.

The first of these tenets can hardly be challenged. A gifted child, by definition, is one who learns faster, remembers more, and thinks more with and about what he has learned, than average children. Such children exist in every school and *most* of them can be identified at an early age. Quite often they identify themselves by their precocious reading, writing, and speaking. Gifted children do not tend to become dull adults. Overwhelming evidence has been amassed proving that there is a high correlation between school-age intelligence and adult achievement. The famous Terman

studies and others have effectively destroyed the myth that gifted children "burn out" before reaching adulthood.

The proposition that the regular school curriculum does not adequately meet the more important needs of the gifted child can again scarcely be denied. What does the regular first grade have to offer to the six-year-old who reads at the fourth grade level and who can perform all of the tasks required of the average second- or even third-grade child *before* he comes to school? There are children thus advanced at every grade level in nearly every school. Regular school curricula and teaching methods at best provide only a point of departure from which school experience more commensurate with extreme upper levels of abilities can be devised, in parallel fashion to that in which the usual graded studies are adapted to the limitations of handicapped youth.

The fourth step in this rationale argues that an educational program can be devised that does more nearly parallel and involve the abilities of the bright and talented. Ideally this pattern of differentiated content and procedure will be *uniquely* suited to the gifted individual, and by that token not be useful to nor within reach of persons not exceptionally well-endowed in general or specific behavior potential. The perfect program for the gifted does not exist—not even on paper—but many school systems have developed practices that offer substantial and promising evidence that differential education for the gifted can be accomplished. Some of these schools have been developing, experimenting with, and evaluating new approaches to the education of gifted children for a third of a century. None argue against the merit of continuing efforts to raise the ceiling of regular curricula so as more thoroughly to involve those manifest superiorities in complex mental processes which are so priceless to the gifted individual and to his society. The truth of the fifth article of faith—the promise to identify larger numbers of talented youngsters, to improve upon their education, and to launch them earlier into productive adult occupations—has been established by school systems scattered across the nation. These educational institutions have shown that where giftedness is systematically sought after and encouraged it flourishes

both in quantity and in quality. They have shown that educational programs can be devised which not only broaden and deepen the gifted child's experience, but also permit him to move more rapidly through the extended years in the contemporary schools and into those creative and productive levels of science, art, and professional practice through which human welfare is advanced.

Through this logic, persons who have studied the problem are convinced that special education for the gifted is socially mandatory, psychologically sound, and educationally feasible. Appeals to meet such clear and compelling needs, and attempts to materialize such a convincing promise, do not have to be based upon the exigencies of the cold war with other national powers. Yet it cannot be too often repeated that our country's greatest natural resource is its supply of human intelligence. There is ample evidence to show that we have wasted and are continuing to waste this precious commodity. American public schools must meet this challenge by recognizing the need for, and the essentially democratic nature of differentiated educational provisions for youth differentially endowed by nature.

In the face of these arguments, there still exists widespread opinion which holds to the idea that it is undemocratic to single out the bright and gifted for special attention. The same systems which deny recognition to the intellectually superior student point with pride to the chorus, the band and orchestra, athletic squads and many other groups formed of children with special abilities. Not only do they recognize these groups, but they identify them early, provide individualized instruction, provide special equipment, allow proper settings with extended periods of time in which identified pupils may become especially proficient, and then set aside performance periods during which the public is invited and to which admission prices may be charged. It is recognized that such activities are generally wholesome for youngsters. But if their existence parallels the denial of special provisions for the superior student in the academic curriculum, then an appraisal is indicated of the philosophy of education of the school concerned.

Grouping the Gifted - - Should We or Shouldn't We?

By Walter B. Barbe*

The practice of grouping the gifted for instruction has enjoyed alternately acceptance and rejection by the education community. The past decade has seen renewed interest in special classes and special schools for the gifted, from elementary grades through high school, to an extent even greater than that of the 1920's. A re-examination of the effects of the present extensive use of grouping is in order.

Some Say Yes:

The most frequently heard justification for grouping is that reducing the range of abilities within a classroom helps the teacher to teach at the level of the students.

Some Say No:

The most frequently heard complaints against grouping the gifted comes not from the students, parents or teachers involved in the program, but instead from those not involved. The complaints from the non-involved group are not crystallized, but generally include such things as the negative influences upon the adjustment of those either involved or not involved in the program, and the philosophical concern for learning to live with all types of children.

New concerns against special classes for the gifted are being heard from the educational community with increasing frequency. These concerns are: (1) that the gifted are receiving more than their share of educational attention (i.e. more and better supplies and equipment, better teachers, more use of pupil personnel services), and (2) that in many situations nothing different is being done for the gifted from that which would have been done had the students remained in the regular class.

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*Dr. Walter B. Barbe is editor of *Highlights for Children*. This article is reprinted from *Accent on Talent*, October, 1967, 2:4–5, with permission of the author.

What to do?

Special grouping of the gifted, not unlike many educational administrative procedures, is not and likely never will be thoroughly evaluated. There are too many concomitant factors which cannot be distinguished from one another, as well as unique factors within each situation which cannot be presumed to exist in another community, to expect evaluation which will clearly answer whether special classes are right or wrong. Some things are known, however, and an examination of these factors can help provide a basis for local judgment concerning the establishment of special classes.

The Facts Are:

Research and practice in the past 45 years have made the following generalizations relatively safe:

1. Special classes, per se, cannot be justified where there has been no attempt to modify course content, teaching procedure and materials. Special classes, where course content, teaching procedure and materials have been modified, have produced measurable positive differences in many but not all areas.

2. Gifted children exert an influence and are influenced both academically and personally by their classmates, whether in special classes or regular classes. This indicates the need of gifted children to be with children of their intellectual level some of the time, and with others at least some of the time. Some separation, but not isolation, seems to be the wise course.

3. The need for special classes in academic areas increases as the student progresses from elementary to high school, indicating that the need for primary grade programs may be harder—but in some situations not impossible—to justify than high school programs.

The answer to the question, "Should we have special classes for the gifted?" must be two-fold. The question must be answered first whether or not the gifted are adequately provided for in the present program. If not, then the question must be answered whether or not a particular school is able to offer a program for the gifted

which is different enough, in positive ways, from the regular program to justify the time and effort which it will assuredly require.

We cannot afford the neglect of the gifted which results from alternating between a policy of homogeneous grouping of the gifted and heterogeneous grouping dictated by the whim of popular sentiment. We must be sure that our program for the gifted is an integral part of the total program aimed at the fullest development of every child, and that everyone understands that the differences come from the implementation of a special program, not from the mere establishment of a program.

Identification--Responsibility Of Principal and Teachers

By John C. Gowan, San Fernando Valley State College

The following is suggested as a special identification program to be modified in specific particulars by local requirements.

1. Select beforehand an approximate percentage of the students for the program, depending upon local wishes and value judgments. It is suggested that this percentage should not be less than 1% and not more than 10%, except in exceedingly atypical schools. Let the percentage target be represented by P%.
2. Use a group test screen, and cut at a point which will give 5P%. Take the top tenth of this group and put them into the program without more ado. Put the rest of the group into the "reservoir".
3. Circulate to each classroom teacher a paper in which he or she is asked to nominate the:
   a. Best student.
   b. Child with the biggest vocabulary.
   c. Most creative and original child.
   d. Child with the most leadership.
   e. Most scientifically oriented child.
   f. Child who does the best critical thinking.
   g. Able child who is the biggest nuisance.
   h. Best motivated child.
   i. Child the other children like best.
   j. Child who is most ahead on grade placement.
   k. Brightest minority group child in the class in case there are more than five, and one has not been named heretofore.
   l. Child whose parents are most concerned about increasing the enrichment of his educational progress.

4. Use an achievement battery and cut at a point which will yield 3P%. Make a list of all students who are in the top tenth in numerical skills; add both of these lists to the "reservoir".

5. Together with the principal, curriculum staff and guidance staff, plus a few teachers, go over and make a list of children who:

   a. Have held leadership positions.
   b. Achieved outstandingly in any special skill (such as arithmetic).
   c. Are the best representative of minority groups.
   d. Have influential parents.
   e. Are examples of reading difficulties but believed bright.
   f. Are believed bright but maybe emotionally disturbed.
   g. About whom any single individual feels he might be in the program.

Put these in the "reservoir".

All pupils in the "reservoir" should now be ranked as to the number of times they have been mentioned.

All children having three or more mentions should be automatically included in the program.

All children having two citations should be sent to Binet Testing.

The Binet equivalent for the percent cut should be determined and any child above this cut placed in the program. If it is feasible, children with one mention should be Bineted with the same results. The remainder of the children are in the "hands of the committee". Each case should come up individually, and some of them should be placed in the program despite a Binet below the cut score. Special consideration should be given to (1) minority group children, (2) emotionally disturbed children, (3) children with reading difficulties, and (4) children with marked leadership or creative talents.

The committee should not be afraid to include children in the program because of social considerations, but each child who comes up before committee consideration should have an individual test.

It is believed that such an identification program:

¶ Is reasonably effective in finding most of the able children.

¶ Is reasonably efficient in cutting costs of individual testing to the bone and in conserving valuable committee time, which need not be spent on consideration of children who obviously go into such a program.

¶ Provides the multiple criteria which are so important in locating all of the able.

¶ Is flexible enough to provide for special cases.

If such a program is adopted, it will be found that the size of P will tend to grow. This should not be a source of worry. The best answer of "where do we stop" is not to stop until at least one member of the screening committee thinks the committee has gone too far in letting students into the program. At any time in the program there ought to be children answering to the following descriptions that somebody thinks don't belong there: (a) a minority group child, (2) a slow reader for his ability, (3) a "nuisance", (4) an emotionally disturbed child, (5) somebody's relative, (6) an original creative child, or (7) a school leader. If the program doesn't do anything for any one of these children, they can always be taken out with a minimum of educational damage. If it does do something for them, the guidance committee has the satisfaction of knowing either that it has made a good guess or that it has acquired an important friend.

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Acceleration Processes

Some Fundamental Concepts to be Considered When Programming for the Gifted

American education today is facing, as never before, the obligation to identify and assist those individuals within the schools who are intellectually gifted to develop to their maximum potential. This responsibility is part of the total function of providing appropriate educational opportunities to adequately accommodate the individual differences of pupils at all levels of ability. Such opportunities require that programs be designed to respect these individual differences, that is, they be appropriately differentiated for pupils at varying levels of intellectual ability.

Recommendations concerning specific instructional programs for the gifted must be made with reservations since it is at this level that our knowledge about their educational needs is least adequate. Neither practical experience nor research has been sufficiently broad enough to support the making of strong and specific recommendations. Emphasis must therefore be placed on encouraging the local school districts to exercise flexibility in their planning coupled with the clear intent to carry on continued study, experimentation and research.

The statements which follow are predicated upon the belief that identifiable groups of children with superior abilities exist for whom differentiated educational programs are essential to assure equality of opportunity for education. These groups of children who have differing kinds of superior abilities, may collectively be termed "gifted" children.

The behavioral sciences recognize with varying degrees of reliability, certain measurable qualities by which we may classify subgroups of gifted individuals. Clearest among these qualities are giftedness in (a) general in-

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*Prepared by Mrs. Mary M. Pilch, Consultant for the Gifted State Department of Education, State of Minnesota.

telligence, and (b) aptitudes or special abilities. By aptitudes we refer to behavioral efficiencies, usually accompanied by above-average intelligence. Special abilities are those which reveal superior performance in such areas as language, science, social skills, various forms of artistic expression and the like.

Within the two categories noted above, it is practical, for educational purposes, to acknowledge degrees of variation upward from the average. Thus we may conceive two broad levels of giftedness as:

Level 1. *Moderately gifted* in general intelligence or specific aptitude. This group is usually conceived to include the top 15–20 percent of the general distribution of human abilities. The Binet reference points for this group are 116 and above.

Level 2. *Highly gifted.* This group is usually held to include the top 1, 2, 3, or 4 percent of general or specific ability scales. The Binet reference points for this group are 130 or above.

It should be kept in mind that any classification of the kind as indicated above is arbitrary, and may properly be varied as specific school populations vary from the average of all school populations in the nation.

In all statements prepared for these in-service sessions the words gifted, superior, outstanding, able, bright, and academically talented will be used interchangeably as they are in the literature; they will serve here more for stylistic variety rather than for semantic intent.

Acceleration Processes

Basic to a program for gifted children is a concern for the student as an individual and the desire to provide educational opportunities suitable to individual characteristics. Also required is a willingness to accept the responsibility of providing differentiation in content and instructional procedures and of introducing new elements into the school curriculum. This does not necessarily require sudden, drastic changes of large magnitude. Rather, a valuable program for gifted children should be closely related to existing practices in the school

district. In the introductory stages therefore, the program may well be a modification rather than a replacement of curriculum.

Programs for the gifted may be as distinct and different as the many districts which conduct them. In a review of the national trends one finds these programs can be grouped into the following basic forms:

1. Enrichment or acceleration of content.
2. Individualizing instruction.
3. Use of instructional methods designed to develop reasoning or mental processes such as creativity, critical thinking and evaluation.

These programs generally have some common characteristics and practices which should be noted here.

1. Classroom procedures are based upon traits of children as individuals and traits of gifted children as a group.
2. There is mobility, especially upward mobility, among groups.
3. Varied techniques are used to respond to interests and age levels.
4. Grouping creates a smaller range of ability and age than is normally found in the classroom.
5. Definite curriculum modifications (as special individual assignments) are in effect each day.
6. Provisions are made for independent study and/or research.
7. Early admission to grades is practiced sometimes by placement or by the introduction of grade material at any earlier grade level.
8. Acceleration of at least 1 percent of the school population by one grade level in content each year.
9. Advanced placement courses.
10. Grouping across grade lines, as placing students from grades four, five and six in one science section or in one reading group.

11. Using subject matter materials such as reading or mathematics at an accelerated rate for certain pupils so that, for example, pupils in grade four may be working at grade five or six level.

12. Using programmed material to allow students to cover additional subjects or areas and to cover basic skills and areas rapidly.

13. Acceleration of content by various methods such as:

    a. replacing 8th grade science with high school biology.

    b. 7th grade students offered regular 9th grade mathematics.

    c. 4th grade mathematics taught by the inductive method to students in grade 2.

The sample procedures listed above are or can be merely administrative changes. The teaching process, the mental action that occurs, and the ideas and attitudes involved are more important than the actual arrangement designed to benefit students with high ability. The aims and goals of those involved in the program are of primary importance.

It is hard to find a single research study which shows acceleration to be harmful to any group of students. From the early studies of the 1930's up to Pressey's recent reviews, acceleration has proved to be a very satisfactory method of challenging able students. The most recently completed studies lend further support to older findings. Certainly caution needs to be exercised in selecting candidates for accelerated programs. It would be foolhardy to disregard the child's physical and emotional development in moving him to a grade beyond his years. Research indicates that wherever it is possible it is probably better to move whole groups of able youngsters through an accelerated program than to move a single child but in the small school where there are few exceptionally bright students and curricular adjustments within broad range classes are difficult to achieve, acceleration can do much to raise the level of challenge and stimulation for the superior child.

To the extent that getting youngsters out of school earlier is per se a worthwhile end, acceleration is certainly

both desirable and practical. There is some evidence to support the contention that the gifted should complete their formal schooling at an earlier age than is now the case. These findings tend to stress the importance of freeing the potential producer from the apprenticeship of schooling at a sufficiently early age to make possible maximum freedom for original work and experimentation by the time they enter the third decade of life. There is also the factor of shortening his years of elementary or secondary schooling to enable him to earlier enter a self-supporting adult role.

Although research demonstrates that exposure to more advanced work is one of the few provisions for the gifted which has consistently been found effective, it does not support the position that curtailing the years of schooling is necessarily the best method of providing such advanced study for the very bright students. There is no evidence that a group which completed the twelve years of schooling in ten would do better than an equally able group which had had an additional two years of stimulating advanced and accelerated work. From his review of many studies, Pressey concluded that acceleration should be considered for the top 20 percent of every student population. He argues that this procedure:

- saves a year or more of schooling and adds at least that much to one's professional life.
- makes no significant difference in academic performance.
- increases the likelihood of a student's bringing his creative powers to bear in a profession.
- saves time and money for a student's family, community and school.

The optimum time for acceleration is not known. Gifted accelerants have been generally successful whether they were early admittees to kindergarten, elementary school grade skippers, participants in special progress classes at the secondary level or early admittees to college. Nor is there a clear picture that acceleration at one time is better than at another. Some evidence suggests that early admission to kindergarten is the ideal time. A

three-year accelerated program conducted in the intermediate grades of Mineola, New York schools comparing accelerants with older pupils and with equally bright non-accelerants indicated the accelerants excelled both control groups in most areas of learning and showed none of the disadvantages so often associated with acceleration. The greatest improvement was shown in the areas of problem solving; the least improvement showed in the areas of creativity.

In conclusion, although we do not have all the answers to the problems of acceleration, there is certainly nothing in research today that would deny or oppose Terman's recommendation that acceleration of no less than one year and probably no more than two years is a most satisfactory procedure for bright students, at least until programs for these learners are sufficiently advanced at each school level to provide accelerated learning without curtailing the years of schooling.

Special Education Legislation

Foreword

This is a supplement to the July 1967 "Preliminary Communication to Superintendents of Schools" concerning Section 10–76 of the General Statutes (1967 General Assembly). The recommendations are concerned with programs for those children who have extraordinary learning ability and/or outstanding talent in the creative arts, and who require specialized instructional procedures and services. Section 10–76 allows reimbursement for such programs when provided as part of the public school program and approved by the Secretary of the State Board of Education.

Many pupils can succeed in the regular school program with some adaptations in the curricular design while others require programs or services beyond the level of those ordinarily provided in the regular school program, but which may be provided through special education as part of the public school program. The determination as to which plan may be effective for these children should be reached by the combined thinking of the special education planning and placement team. In Connecticut the ultimate responsibility for the school placement of any child lies with the superintendent of schools of the school district in which the child attends school. While this responsibility is with the superintendent of schools, his decision should represent the result of inter-professional collaboration on the part of his staff and, if necessary, other consultation of an appropriate nature.

Summary of Legal Provisions

Section 10–76 of the Connecticut General Statutes makes it permissive for local and regional school districts to provide reimbursable special instructional and supportive services for pupils with extraordinary learning ability and/or outstanding talent in the creative arts. The town or regional board of education may do this individually or in cooperation with other school districts.

To be reimbursable, plans for providing such special education must be approved in advance by the State Department of Education. Reimbursement based on an excess cost concept is explained in Section VII of the August 1968 *General Guidelines for Special Education Programs.**

Definitions of Terms

Extraordinary learning ability is deemed to be the power to learn possessed by the top five per cent of the students in a school district as chosen by the special education planning and placement team on the basis of (1) performance on relevant standardized measuring instruments or (2) demonstrated or potential academic achievement or intellectual creativity.

Outstanding talent in the creative arts is deemed to be that talent possessed by the top five per cent of the students in a school district who have been chosen by the special education planning and placement team on the basis of demonstrated or potential achievement in music, the visual arts or the performing arts.

Identification Procedures

The responsibility for the identification of eligible pupils rests with the superintendent of schools or an employee of the school district to whom he may delegate this responsibility. Such identification should be based on a study of all available evidence as to the pupil's ability and potential made by personnel qualified to administer

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**General Guidelines for Special Education Programs—Section 10–76 a–10–76g of the General Statutes.* State Department of Education, Bureau of Pupil Personnel and Special Educational Services, Hartford. August 1968.

and interpret appropriate standardized tests, judge demonstrated ability and potential, and recognize outstanding talent in the creative arts.

Evidence as to a pupil's extraordinary learning ability and/or outstanding talent in the creative arts must be satisfactory to the Secretary of the State Board of Education.

Items of evidence in the intellectual category should include:

A. Very superior scores on appropriate standardized tests. Criteria for "very superior" might be the upper two or three per cent of an appropriate criterion group or scores which are at least two standard deviations above the mean.

B. Judgments of teachers, pupil personnel specialists, administrators and supervisors who are familiar with the pupil's demonstrated and potential ability.

Additional items of evidence used in the creative arts category should include:

A. Evidence of advanced skills, imaginative insight, intense interest and involvement.

B. Judgments of outstanding talent based on appraisals of specialized teachers, pupil personnel specialists, experts in the field and/or others who are qualified to evalute the pupil's demonstrated and potential talent.

The procedures have been designed to avoid arbitrary cut-off points or limitations. The identification process should identify a small percentage of pupils with extraordinary ability and outstanding talent whose needs are such that they cannot be met in the regular school program.

Minimum Standards of Programs

Programs provided for pupils in these categories should should include the following components:

A. Case study records should be maintained for all pupils placed in programs.

B. A written design for the program should be maintained including objectives, activities, special facilities, and evaluation procedures.

C. Other basic program requirements:

1. The activities and experiences should be identifiably different from those provided other pupils.
2. The teaching techniques and methodology utilized should be designed specifically to meet the needs of these pupils and should emphasize the development of high level mental processes and skills.
3. Pupils should be involved in these programs for a sufficient amount of time to assure that the special education activities will have a significant effect on their educational progress.
4. The program should be developed in relation to the total school program. Careful attention should be given to articulating and coordinating the program with preceding and succeeding school experiences of the pupils.

Teacher Qualifications

A. *Selection of Staff*

Careful attention should be given to the selection of teachers. No special certification requirements have been established. Teachers should hold a certificate appropriate for the age level of the class and should have the personal and professional qualifications judged necessary for effective work with these children.

The teacher should be an individual who has a desire to do this special work, and has demonstrated this interest by showing understanding of children as well as by taking graduate courses which are designed to increase this understanding and to develop the competence required to help these children and youth.

It is urged that primary requirements for a teacher include: a high degree of self-understanding and security; a warmness toward and acceptance of these pupils; professional background which includes ad-

vanced graduate study relevant to the teaching assignment and which increases his understanding of gifted and talented pupils; successful regular classroom teaching experience; a willingness to seek further training if needed and recommended; and a willingness to meet regularly with other staff members.

B. *Teacher Aides*

The need for teacher aides will depend on the class size and the type of problems presented by the children in the class. Frequently the use of teacher aides will facilitate the handling of specific situations as well as contribute to the effectiveness of the special education program. The characteristics listed above for teachers, (e.g. self-understanding and security, acceptance of the child, demonstrated ability to work in an understanding way with the children), are important also for aides.

C. *Special Education Consultant Services*

There may be a need for special education consultant services provided by personnel other than employees of the school district. Personnel contracted with for these services need not be certified since their services are being utilized in a non-instructional category or under the supervision of certified personnel. For example, the school district may contract with musicians and artists to evaluate outstanding talent in the creative arts; to advise and assist in planning appropriate special education programs for these pupils; to assist in special instruction of pupils under the supervision of certified personnel; and to engage in other activities which assist teachers to work more effectively with eligible pupils.

Types of Special Provisions

Special provisions may take several forms to meet the needs of these pupils. They may be special classes, special enrichment study, individualized instruction, etc. Therefore, special class placement is not the only method of providing for pupils who have these abilities

and talents. Also, even when special class placement is indicated, it may not be necessary that it be for the full school day.

Itinerant teachers are another important source of help. The itinerant teacher's work for a few hours each week plus his consultative advice to the regular teacher may be an adequate program for some children though quite insufficient for others. Here again is illustrated the responsibility for the school to evaluate carefully and plan thoughtfully.

Program Approval

At such time as the Secretary of the State Board of Education requests, each school district seeking reimbursement under the provisions of this act will submit an application for prior approval. The prior approval application, in general, may be in narrative form and should include the following:

A- Cover Page

The cover page should be a reasonable fascimile of the following form:

Application for Program Prior Approval
Gifted and Talented Program to

Bureau of Pupil Personnel and Special Educational
Services Division of Instructional Services
Connecticut State Department of Education

School District.....

Supt. of Schools.....Phone No.....

Director of Program.....

School Address.....Phone No.....

Supt. of Schools.....
Signature

Forwarded to Bureau of Pupil Personnel, State Department of Education on .....
Date

Received in State Department of Education on.....
Date

.....
By

B. A narrative section should follow with a breakdown into the following subdivisions:

1. *Identification*—This section should include a description of criteria and methods of screening and selecting pupils eligible for special programs. This outline should indicate the various qualities evaluated and the methods of evaluation.

2. *Programs*—The program should be outlined and include specific objectives, curriculum content and special techniques to be used to achieve these objectives. A major factor is the difference between what is ordinarily provided in regular school programs and that which will be offered through special education. Another important component should be the nature of instructional practices to be utilized, such as enrichment, acceleration, inquiry training and others. Specific conditions which may affect the success of the program should be included. A statement should be included to show how this program relates to the rest of the school program, especially the articulation of the program with other levels of the educational continuum.

3. *Supportive Services*—These are services available or planned to assist the program and should be described. These services would include such items as pupil personnel specialists, curriculum specialists and training of staff.

4. *Evaluation*—The evaluation procedure should be in terms of the basic objectives of the program. There may be different goals for various elements of the program. The basic concept of the evaluation procedures should be: How does the school district expect to determine the success of its program?

5. *Budget*—To better describe programs for these pupils, budgets for the program should be developed. The budget should include the following categories:

   a. *Personnel*—List and describe with qualifications all personnel who are regular employees of the board of education for whom reimbursement is being requested to carry out the special education

program. Special Education Consultant Services are covered under Part (c) below.

b. *Instructional Equipment and Materials*—List and describe costs of special instructional equipment and materials required for conducting the program. This is a category to cover costs of special instructional equipment and materials which are necessary for the special education program and which will be used primarily for those pupils in such a program. Specific instructional materials beyond the level used in the regular program and which are purchased as part of the special education program would be allowed. In some cases, rental of equipment may be reimbursable. For example, the purchase of musical instruments is not reimbursable; however, in cases where an instrument is necessary and no other source is available, the rental of a particular instrument may be reimbursable. (Refer to *Preliminary Communication* Section III(3), Page 9, for further clarification.)

c. *Special Education Consultant Services*—List and describe personnel (other than regular employees of the board of education) with their costs and qualifications. This is a category to cover special services provided by personnel other than employees of the school district.

6. Applications for prior approval should be submitted in duplicate to:

William G. Vassar, Consultant
Gifted and Talented Programs
Connecticut State Department of Education
Box 2219
Hartford, Conn. 06115

Questions for Staff Discussion In an Evaluation of The Problem*

When very able students can learn so fast, why don't they?

How do we differentiate between (1) pushing and pressuring a child and (2) challenging and stimulating him?

What value can be expected from studying the gifted?

What are our schools' favorable conditions for fostering superior ability?

What kinds of outstanding performances *besides athletics* are systematically identified and accounted for in the total school curriculum?

How can the classroom teacher be helped to recognize the gifted child?

How should tests and the testing program be used in the guidance of the gifted child?

What types of gifted children may be encountered in the regular classroom?

How can the school be better organized to study the gifted?

What kind of staff team are we building to guide the gifted?

What organizational practices are feasible within the school's limitations?

What can we do for the gifted through special grouping designed for them?

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How can the school provide for a relatively small number of gifted children if the mental ability level for the school is average or low?

How can the school further the gifted child's reading interest?

How can fostering creative expression help the gifted?

How can the parents evaluate the school's provisions for the gifted and talented and help it in developing the gifted child's abilities?

What are some specific programs, techniques, and approaches that I as a classroom teacher can use to develop creativity? In the elementary school? In the secondary school? In specific subject areas?

Does lowering of high school subject matter into the junior high and elementary schools result only in more rapid accumulation of factual information? How does this affect the creative and higher thought processes?

How can we encourage creativity in: industrial arts, home economics, physical education, and fine arts? Is this now being done?

How can I evaluate children on report cards if discovery and creative responses rather than knowledge are at a premium?

How can we change potential creativity into functional creativity?

Can children "discover" without sufficient subject matter background? How much of the basic disciplines and/or maturation is necessary before the child is encouraged toward "discovery"?

Questions Relative to the Development of Creativity*

Is there a relationship between academic intelligence and creativity?

Does creativity presuppose academic giftedness?

What are the higher thought processes? (a) Gifted—How defined? (b) Creative—How defined?

How can school systems identify those children who are creative? Are they being identified? Are there programs for them?

Are certain types of teachers more effective in working with the creative? The academically gifted?

How much knowledge of human behavior should the teacher have? Is subject excellence enough?

How do I as a teacher develop the higher thought processes with subject-oriented materials?

How far can a teacher comfortably deviate from conventional teaching procedures with the academically gifted and creative child?

How can we encourage administrative flexibility in developing programs for the gifted?

Who are the natural enemies of creative teachers? What are some of the obstacles inherent in school systems for being creative?

What teacher qualities are necessary to encourage creativity and higher level thought processes in children?

Can creativity be taught? Is it inborn? Can it be inhibited?

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What practices do we follow as teachers which inhibit creativity?

What practices do we follow as teachers which enhance creativity?

Are there family or cultural practices that inhibit or encourage creativity?

Do our practices of acceleration, grouping, etc., include the creative? Can these grouped classes develop higher thought processes? Do they? Or do they inhibit these processes?

The Role of the Administrator in Educating the Gifted

The Superintendent

1. Leadership—stresses the need for programs for talented pupils.
2. Initiates study of need for a program.
3. Secures the support of the school board.
4. Budgets adequate funds.
5. Secures consultant assistance.
6. Provides competent staff.
7. Provides adequate guidance services.
8. Provides adequate materials and supplies.
9. Organizes good in-service programs for teachers of the talented.
10. Assists in planning comprehensive programs of evaluation.

The Principal

1. Accepts responsibility as an educational leader.
2. Participates in staff planning.
3. Schedules program.
4. Provides liaison with community.
5. Uses sound policies for grouping pupils.
6. Insures parent-faculty understanding.
7. Participates in quality in-service programs.
8. Selects a highly motivated member of the staff to provide additional impetus for the project.
9. Provides effective supervision.
10. Helps develop programs of evaluation.

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Role of State Department of Education

What the department can do to assist school personnel in establishing programs for gifted and talented pupils:

1. Explore the area of gifted and talented pupils with groups of interested administrators. Create staff assignments for working on programs for gifted and talented pupils.
2. Give parents and administrators answers to the old cliches about: self-contained classrooms, heterogeneous grouping, no acceleration, and gifted children learning from average and slow children. Quote *all* the research.
3. Confer with professional personnel from school districts regarding identification procedures.
4. Prepare packets for administrators which contain such things as suggested goals, identification procedures, research techniques, suggestions for administrative planning, and curriculum suggestions.
5. Direct attention to and assist school districts with the development of individual case study records, and planning curriculum and daily educational experiences on the basis of information received.
6. Develop, in cooperation with school district personnel, descriptive materials for parents, school board members, and the general public.
7. Provide in-service training for interested administrators and teachers.
8. Work with school districts in preparing teaching guides, special kits, and other resource materials.
9. Develop a roster of resource persons available to teachers and students.
10. Explore possibilities of NDEA and Title III (Public Law 89–10) projects which might dovetail with gifted and talented programs.

11. Establish demonstration situations in various areas of the state.

12. Develop summer workshops for teachers in cooperation with school districts and institutions of higher learning.

13. Assist in the preparation of special kits; for example, those dealing with concept development, literature enrichment, or reading improvement.

14. Help in the selection of books for children with searching minds and creative thoughts.

15. Encourage individualized instruction and assist teachers in acquiring materials to carry out their work.

16. Act as liaison agent between school districts and colleges in the matter of arranging for some students to attend college courses at colleges or universities.

17. Develop cooperative summer schools for the gifted and talented which focus on cultural improvement, skill development, independent study, and research.

18. Assist in developing seminar programs for high school students which would involve scientists, businessmen, physicians, engineers, military personnel, and college personnel.

19. Promote Saturday programs for students in rural and somewhat isolated areas. These programs might provide resources, opportunities, and special personnel on Saturday that could not be available on other days of the week.

20. Show the positive effects that programs for gifted and talented children might have upon the total educational program. Help school districts develop procedures for *evaluating* programs.

Suggested Criteria for Programs for the Gifted And Talented*

Introduction

No advanced program for the gifted and talented can be effective without careful thought being given by each school district to the following:

1. The relation of the content of courses to the emotional and intellectual development of the students. Particular attention should be given to the distinct differences in emotion that exist before and after puberty.

2. The latitude a teacher must have in the planning, the methodology, and the content of the courses to be given.

3. Whether the aim of such programs is that of a liberal discipline resulting from intensive work or that of the accumulation of facts resulting from the quantity of work.

4. The grouping of able youngsters, especially in the grades, without the creation of a class system that is incongruous with democratic idealism. Perhaps a change from geographical grouping to ability grouping is an answer in populating grade schools.

Criteria for a Program:

1. *Continuity*—To insure continuity in programs for the academically talented these characteristics are desirable:

   a. Supervision—Through department heads or specially assigned supervisors. Local rather than state-wide supervision is mandatory since each

*Adapted and reprinted with permission of the California State Department of Education.

program must take shape from the needs of the particular school system.

b. Comprehensiveness—Ideally a program would extend through all grades with a carefully planned sequence of work in all of the various subject areas.

c. Flexibility—The unevenness of the maturation processes in childhood and adolescence makes it necessary that students be allowed to leave an advanced program at any time. The use of invitations to qualified students will accentuate the need for strong motivation.

d. Testing—The use of aptitude tests will be a factor in the selection of students to insure the continuity of the programs, and standardized tests in subject areas would seem necessary. Reading skills, writing skills, knowledge in languages and mathematics should all be measured with regularity. A careful search should be made for students with high scores on aptitude tests but low performance on achievement tests and in the classroom.

e. Evaluation—A plan for periodic evaluation should include both self-assessment and objective assessment by qualified outside evaluators (i.e., evaluators who are not connected with the program). The plan for evaluation should be comprehensive in that it focuses on all important features or elements of the program (e.g., teacher selection, procedures for student identification, etc.) rather than merely considering gains on traditional achievement tests.

2. *Size of Classes*—Since class size is an important feature of advanced programs, variations in the limits of class size should be considered. Rigid prescriptions for class size are undesirable, but generally, advanced classes should be smaller than usual to allow for maximum participation on the part of encyclopedic and inquiring young minds.

3. *Teacher Load*—Teachers of advanced programs should, on the secondary school level, have no

more than four classes a day. On other levels and in unusual circumstances, the teaching load must be lightened in order to have an effective and vigorous program based on thoughtful teacher preparation.

4. *Depth and Breadth of Experience—*

   a. The aim of an advanced program is not to substitute quantity of work for the intensity of the work. More must be demanded of students when confronted with basic subject material—with additional material supplied to enable a student to go deeper into the work.

   b. The ability to work intensely and under the pressure of criticism is as much a function of character as intelligence. If intensity is to be considered as a major feature of advanced work, it will make the selection of students by intelligence tests alone a self-defeating criteria.

   c. Consideration should be given to broadening the range of experience for gifted students by introducing into the curriculum segments of knowledge not ordinarily encountered in the regular curriculum.

Programs for Gifted Students In Secondary Schools

There is a variety of programs in vogue nationwide. Some of the current practices include:

—Seminars held on campuses of universities and colleges. Noted authorities make presentations, take part in discussions, and assist in the supervision of individual research projects.

—Honors classes in which pupils develop skills in comprehending, analyzing, and evaluating subject matter and experiences in depth.

—Advanced placement courses conducted within the high school or at a neighboring college or university.

—Summer programs which are guidance-oriented to assist underachieving talented pupils gain new insight into their potentialities.

—College skill, speed reading, note taking and creative writing courses.

—Experiences to develop good leadership potential.

—Experiences for "beefing" the disadvantaged pupil to higher levels of thought, appreciation, recognition, and success.

—Programs in which pupils are permitted to take courses normally taken by older pupils in which course content is offered earlier than normal.

—Use of programmed materials as a means of allowing pupils to independently acquire needed skills or knowledge.

—Seminar-type symposiums where provision is made for reflection and discussion—allowance of atmosphere free from most daily pressures and outside obligations.

Adapted and reprinted with permission of the California State Department of Education.

—More extensive use of present language, science and mathematics laboratories geared to fostering special facility in these areas.

—Special workshop situations organized during or after school for special projects.

—Individual study program including high school and college correspondence courses.

—Differentiation of program to allow selected talented pupils opportunities to make presentations to or to teach younger pupils.

—Programs seeking community sponsors for individual pupils. This might result in special facilities, laboratories, or other equipment made available to talented pupils.

—Special film courses viewed in individual learning centers.

—Flexible scheduling with sufficient time for intensive application to a matter of special concern.

—Computer mathematics and computer programming.

—Tutorial programs involving reading and tutorial assistance in examining the basic ideas of men.

Some Guidelines to Successful Program Development

By Virgil S. Ward, University of Virginia

No two communities are likely to develop precisely the same program of special education for gifted students. Factors such as the size and wealth of the community, the number and location of schools and characteristics of the school population, will all tend to influence the course of development of a program. A detailed plan of action which is to be followed by any school system must be devised by the staff whose commitment is essential to its implementation. The suggestions offered here for initial steps in program development are generalizations born of the comprehensive study and observations made by a number of persons who have been involved in program development.

1. The first recommendation, stated very plainly, is that proponents of special education for the gifted should know what they are talking about. In most communities they will face formidable obstacles in the form of inertia, fear of the untried, and even active opposition based largely on misinformation and ignorance. Believers in special education for the gifted should not expect its inherent logic and reasonableness to carry the entire burden of persuasion. They must be armed with facts about everything from manpower waste to early admissions, and they must communicate these facts to teachers, parents, school board members, and the public. They must be able to refute convincingly such arguments as "ability grouping is undemocratic," "the genuinely gifted child will educate himself," "it is unfair to spend more money on bright children than on average children," and "acceleration is harmful to the child's social adjustment." Many of the arguments against special

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education for the gifted are superficially convincing, and they are bolstered by the dead weight of custom and apathy. Only reason and fact, in quantity, can overcome such obstacles.

The background preparation for those who must counter such arguments is a thorough study of the literature of the field. While research has not yet provided final answers to all questions, it has furnished proponents of special education for the gifted with a great deal of useful information and reasoned argument.

In addition to knowing the literature of the field, those who would have a gifted child program must know the facts about their own school system and community, i.e., the number of gifted children and where they are, dropout data, how the system compares with similar systems with respect to program for the gifted, and so on. They should also be aware of any state regulations or policies related to provisions for gifted children.

Many communities have found the services of an experienced and knowledgeable consultant to be a worthwhile investment. Such persons can render invaluable assistance in preliminary planning and organizing by helping less experienced school personnel to avoid costly missteps. Speaking from a background of experience and knowledge, a consultant can also do an effective job of presenting the case for special education for the gifted to various assemblies of school personnel, parents, or school boards. In passing, it should be noted that valid criticism on the part of such retained personnel should be interpreted as a service, unquestionably a greater one than unmerited praise.

2. A second and closely related generalization is that proponents of a gifted child program must be able to state precisely what such a program can be expected to accomplish. In other words, it is essential that a set of objectives or process goals specific to this program be formulated. These particularized objectives must be in harmony with the general

objectives of education (e.g., the accommodation of individual difference, qualitative experience for *all* children, etc.), *but* the general statements are alone not sufficient. Particulars that are significant must be identified as pertinent to gifted children which do not pertain exclusively or predominantly to children in the middle ranges of ability. This is not a simple task, for many of the desirable end-products of special education for the gifted do not lend themselves readily to precise formulation. Nevertheless it is necessary that the objectives of the program be spelled out as clearly as possible and in such a way that they can later be put to test; it is this set of objectives that must provide the basis for subsequent evaluation of the program.

3. A third and most important recommendation is that the base of support for the program should be made as broad as possible. Planning should involve all teachers and other school personnel regardless of the role they will play in the established program. Parents and representatives of community agencies should also take appropriate parts in planning the program. The greater the number of persons sensibly and purposefully involved in planning and organizing the program and who thus have a personal interest in it, the greater are its chances for success. While some successful programs have been established predominantly through administrative force, success has much more often followed total involvement of the school staff and large scale participation by parents, civic organizations, and influential persons in the community--this in accordance with the tradition of democratic administration and leadership. Less than such genuine involvements can lead to what is frequently observed to be merely a slick-paper program, buttressed in the main by publicity-minded administrators, and lacking in the real subtance of changed pupil and teacher behavior.

4. A fourth recommendation follows from the third. If the program is not to falter, or lag unduly in the planning and discussion stages, it is necessary that overall responsibility for its development be fixed,

preferably in one individual. Responsibility cannot be distributed equally among supervisors, department heads, principals, or other persons whose primary concern is the education of all of the children in their jurisdictions. Accountability for the program must be the function of some individual whose sole, or at least primary, responsibility is this program.

An occasional distortion of this emphasis results in "one-man programs" where what should be diversified and differentiated processes and effects, affecting every school, every grade, every subject, and (directly or indirectly) every teacher, becomes in fact the activity of *one* person. The enthusiasm and absorptive embrace of such individuals can assume proportions over the years to an extreme such that removal of the person results in swift demise of the program. This eventuality, of course, should be avoided.

Committee Functions

In view of the fact that the appointment of committees to develop specific emphases in the ongoing program of the school is a frequent practice, certain further guidelines are offered as pertaining directly to the province of such a committee responsible for gifted pupils.

The original committee is usually called a steering or planning committee. Ideally, its composition should include the superintendent, appointed members of the board of education, the administrative and supervisory staff, and interested community leaders. It is well to include persons offering potential opposition, as their criticism can often be turned into constructive suggestions in the process of developmental work by this committee. The chairman of this committee should be the coordinator of the gifted child program. Both the selection of the proper persons to serve on the committee, and the step by step development of the committee's work are essential to sound development of school and community readiness to enter upon a program for gifted children. The following are suggested as possible activities of the committee:

- √ Investigate scope of problem.
- √ Determine attitudes toward gifted children in the community, and determine how the community is to be related to the school's provision for them.
- √ Study the school's philosophy of education, and draw from it a statement specifically related to and in agreement with it, which delineates the beliefs of the local school board in regard to the education of the gifted.
- √ Discuss the stated philosophy in faculty meetings, and present it to the board of education for approval.
- √ Select a definition of giftedness which best fits the needs of the children in the local system.
- √ Establish criteria for identifying the gifted children falling within the scope of the accepted definition.
- √ Serve as a clearing house for presentation and discussion of problems arising in the identification process.
- √ Determine the needs of the selected group of children. Top-flight consultants in the fields of curriculum and guidance should be brought in for both committee and school staff utilization in writing out these needs. Utilize the training and experience of local authorities, as well as outside help.
- √ Evaluate effectiveness of the present school program in relation to the identified group of gifted.
- √ Decide upon the types of administrative provisions that will best meet the needs of the selected group of children within the framework of the local school system.

The work of the committee and the factual information collected by it should be presented to the entire staff. All staff members not involved on the committee should be informed at all times of the past, present, and future status of the program. All matters of policy and a summary of committee activities should be properly presented

to the board of education. Publicity should be given to committee actions and findings according to accepted principles of good school-community relations.

School and community readiness is not a static condition, but requires ongoing and consistent efforts. Uninformed as well as unenlightened minds are fertile breeding grounds for doubt and opposition.

Seven Features of Programs For the Gifted and Talented

By Joseph S. Renzulli, University of Connecticut

As part of a research study dealing in the problem of evaluating programs for the gifted,[1] an attempt was made to identify the characteristics and elements of special programs that are considered to be "key features" in the sense that they comprise the most necessary and sufficient dimensions of programs designed to meet the needs of superior and talented students. The key features described below are based on the considered opinions of a small but eminently qualified group of persons who have made substantial contributions to the field of education for the gifted.

The isolation of key features is considered to be useful in identifying areas where concentration should be placed in the process of program development. The key features do not pertain to any given pattern of organization, but rather attempt to embrace excellent practices operating individually or in varying combinations, and practices that can and should be inaugurated in view of the behavioral potential of students who possess identifiably superior abilities.

Key Feature A: The Teacher. Although there is little question that all students should have well-qualified teachers, the relatively greater demands made upon teachers by vigorous and imaginative young minds requires that special attention be given to the selection and training of teachers for gifted and talented students. A number of statements in the literature in the form of principles by Ward (1961) and Williams (1958) call attention to this important dimension of special programming and Newland (1962) has provided us with a breakdown of essential qualifications that can serve as guides in teacher selection.

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[1]Joseph S. Renzulli. "The Evaluation of Programs of Differential Education for the Gifted," *University of Virginia Education Review*, 5:45–48, 1967.

Key Feature B: The Curriculum. Experiences comprising the curriculum for gifted and talented students should be recognizably different from the general educational program that is geared toward the ability level of average learners. These experiences should be purposefully designed to evoke and develop recognizably superior behavioral potentialities in both academic areas and in the fine and performing arts. A systematic and comprehensive program of studies should reach all children identified as gifted at every grade level and in all areas of the curriculum where giftedness is educationally significant. The careful development of distinctive syllabi, methods, and materials will help guard against a fragmentary or "more of the same" conception of differential education. A number of Ward's theoretical principles of education for the gifted are particularly relevant to curriculum development and will provide valuable guidance in constructing truly differential experiences.

Key Feature C: Student Selection Procedures. The literature on giftedness is replete with information relating to the identification and placement of superior students. This Key Feature acknowledges the existence of all reliably identifiable types of giftedness and calls for the appropriate and discriminating use of several identifying instruments and processes. Periodic screening to obviate overlooking talent of any kind should be followed by increasingly refined, exacting, and fair appraisal of specific abilities. Identification and placement procedures should be carried out at least once annually, and provisions for succeeding searches beyond the initial screening and for inprocess transfer into and out of the program should also exist.

Key Feature D: A Statement of Philosophy and Objectives. The essential role played by statements of philosophy and objectives in guiding the development of *all* educational enterprises is well known. As far as programs for the gifted are concerned, the relative uniqueness of the learner requires that truly differential practices be based on explicit beliefs, values, and goals that acknowledge the gifted individual's superior potential and consequently direct the educational programming that

is designed to nurture such potential. Underlying statement of philosophy and objectives should take account of the arguments and support special programs, the broad and specific goals of the program, and the distinction between the objectives of general education and those that have particular relevance to differential education for the gifted. Although there is some possibility of well-developed programs existing without written statement in the nature of philosophy and objectives, it seems highly improbable that school systems that have not taken the time to develop such documents will make serious inroads toward the implementation of comprehensive differential programming.

Key Feature E. Staff Orientation. In order to succeed any educational venture needs the cooperation and support of those persons who are responsible for its implementation. A sympathetic attitude toward special provisions for the gifted and a basic understanding of the theory and operation of a special program on the part of *all* staff members are considered to be important elements in helping to realize a program's maximum effectiveness. In most instances, staff members not connected with the gifted student program, per se, usually participate indirectly by identifying and recommending students for placement; therefore, it is necessary that they recognize the nature and needs of potential program participants, are knowledgeable of the available facilities, and are committed to the worthwhileness of differential qualities of experience.

Key Feature F: A Plan of Evaluation. Within the field of education for the gifted the need for evidence of program effectiveness is well-recognized. But the particularized objectives and relatively unique learning experiences that characterize truly differential programs require the use of objective evaluative schemes that take account of a variety of important program dimensions. One approach to program evaluation developed by Ward and Renzulli (1967) utilizes each of the Key Features here reported as focal points around which a set of evaluative scales have been developed. The instrument, entitled "Diagnostic and Evaluative Scales for Differential Education for the Gifted", is designed to point

out specific areas where program improvement seems warranted.

Key Feature G: Administrative Responsibility: A clear designation of administrative responsibility is an essential condition for the most efficient operation of all school programs. Although size and resources of school system will determine the amount of administrative time that can be allotted to the gifted student program, it is necessary that the person in charge of even the smallest program be given sufficient time and resources to carry out his administrative duties in this area. Already overburdened administrators, supervisors, or teachers who are given the responsibility of a special program as an "extra" assignment, without a corresponding reduction in other duties, are likely to approach the task with less than optimal enthusiasm.

Summary and Conclusions

The intent of this study was to isolate those features within programs for the gifted that are considered by recognized authorities in the field to be the most essential for a worthy program. The effort is aimed at providing persons who are involved in various aspects of programming for the exceptionally able with a sound rationale for decision making. On the basis of the rankings by the panel of judges, there appears to be justification for designating certain program elements and characteristics as "Key Features" in programs for the gifted. Such a designation is considered to be useful in identifying areas where concentration should be placed in the process of program development and evaluation. The Key Features isolated in the present study do not pertain to any given pattern or organization, but rather attempt to embrace excellent practices presently operating, either individually or in varying combination, and practices that can and should be inaugurated in view of the behavorial potential of students who possess identifiably superior abilities.

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Behavior of Teachers That Aids in Development Of Creativity*

Value creative thinking.
Make children more sensitive to environmental stimuli.
Encourage manipulation of objects and ideas.
Teach how to test systematically each idea.
Develop tolerance of new ideas.
Beware of forcing a set pattern.
Develop a creative classroom atmosphere.
Teach the child to value his creative thinking.
Teach skills for avoiding peer sanctions.
Give information about the creative process.
Dispel the sense of awe of masterpieces.
Encourage and evaluate self-initiated learning.
Create "thorns in the flesh."
Create necessities for creative thinking.
Provide for active and quiet periods.
Make available resources for working out ideas.
Encourage the habit of working out the full implication of ideas.
Develop constructive criticism—not just criticism.
Encourage acquisition of knowledge in a variety of fields.
Develop adventurous-spirited teachers.

Teacher's Role in Furthering Creativity**

1. *Inspiration:* This means the kind of teaching and general relationships which inspire the child to learn, to please and emulate the teacher. Learning involves

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*E. Paul Torrance in S. J. Parnes and H. F Harding. ***A Source Book for Creative Thinking***. New York: Charles Scribner's Sons, 1962. P. 46.

John C. Gowan and George D. Demos. ***The Education and Guidance of the Ablest*. Springfield, Ill: Charles C. Thomas, Pub., 1964. Pp. 86–87.

growing toward other people as well as growing to understand more things.

2. *Stimulation:* Enclosed in the content of the curriculum should be stimulating, new and exciting experiences in the the arts and sciences involving color, motion, texture, sound, activity, investigation. It is also the far-off in time and space, the realistic, the unusual, the novel, interceptive and unhackneyed.

3. *Amelioration:* Children cannot create without inspiration and stimulation, and they will not create without the ameliorating influence of a warm, safe and permissive atmosphere. They need a zone of psychological safety out of which they can step to explore the world but to which they can return quickly when frightened or disturbed by their discoveries. The time of creation is a tender time. Teachers can help by praising initial efforts and by not scotching nascent creativity, however crude, by criticism. An air of expectancy for the creative function on the part of all is important. Last and most vital is a general atmosphere of warmth and even affection. All of us, and children especially, tend to create things for those we love.

4. *Direction:* The teacher needs to be in a position to direct developing talent to an area and a level where it will be most effective. While this is properly a guidance function, it is something which the able teacher can handle. Direction both in terms of a particular area, such as art, science, and in terms of the level at which the talent should be explored or practiced is important. Brandwein's skill at this kind of operation in connection with scientific orientation has been noted previously. We need more teachers who can do the same.

5. *Encouragement and Development:* The final aspect of the teacher's role is the encouragement of the developing capacities into a practical channel. Some of this will take the form of constructive technical criticism when the child is ready for it. Some of it will take the form of referral to competent authorities or to books, examples or other non-personal resources.

Some of it will take the form of providing early success experiences, such as presenting the material before the class, or other similar chances to display one's skill. Last of all will come some arrangement for transferring the pupil to a high discipline or to occupational opportunity. It is characteristic that good teachers always seem to have contacts in both areas and to be unusually successful in "placing" their students to the latter's professional advantages.

Suggestions for Nurturing Creativity*

1. Educators want creative children in school, yet research shows that creative children are often not easily tolerated there. Creativity, like honesty, is not directly taught to children. One does not contrive a unit on either; rather both are outcomes of natural transfer of learning resulting from wide-spectrum curriculum design and teaching practice which gives the child stimulation and training in often neglected areas of abilities, cognitive processes and attitudes. Bruner (1962) suggests that good teachers have discovered the need to stress the intuitive and heuristic processes and ideas instead of relying exclusively on the recitation of facts and memory. Understanding the structure of subject matter enables the student to recognize the applicability of an idea to a new situation; in short it helps him develop a repertoire of cognitive strategies (methods of attack).

2. Much of the research suggests that the creative process occurs most often and perhaps most effectively in the atmosphere that is free from the pressure of premature evaluation. The child needs to be able to "play" without being expected to produce anything or without being required to "make sense." In a classroom where there is too much direction, he will not be allowed to explore or to develop his own questions. If he is fearful of grades or teacher opinion, it appears that the creative process will be impeded.

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*John C. Gowan and George D. Demos. *The Education and Guidance of the Ablest.* Springfield, Ill.: Charles C. Thomas, Pub., 1964. Pp. 87-90.

3. It is now generally believed that the creative process, regardless of the ultimate value of the product, consists of four steps. First comes a period of immersion in the material, a time of "play" and growing familiarity with the possibilities inherent in it. This is followed by a narrowing of interests and the development of increased skill in a particular aspect which appeals to the individual. There may then be a period of incubation where there is an apparent decline of interest. If the creative process has been operating, this will be followed by the production of some unusual product or by the development of some answer to a question which has arisen during the earlier stages.

4. What can the teacher do in the classroom to allow for and encourage such a process? The above statement suggests first that there must be a variety of materials available for the children to explore in the initial stage of play. There must be time allowed for the exploration and development of skills. As the child narrows his interest, questions will arise and while the teacher may need to assist him in the development of the question it must be the privilege of the child to look for his own answers.

5. The teacher who wishes to encourage creative thinking will not make the mistake of focusing simply on the commonly emphasized areas of art and music. She will realize that creativity can be expressed in many and diverse ways, and will help her class to experiences which are appropriate. The child who is especially interested in science or mathematics should be given the same opportunity to "play" with numbers or scientific concepts as the child who is interested in drawing or creative dramatics.

6. There seems to be general agreement that there are significant declines and increases in creative performance of children. A high point of creative production at around age four is followed by a decline at age five. There is then an increase up until about grade three. This is followed by a drop in performance at grade seven or the end of sixth grade. We might assume that the drops at ages which reflect changes

in school structure were merely reflections of the strains and adjustments necessary at these times. This picture is confused by the suggestion that the curve for creativity is generally downward; that is, most individuals are more creative at four years of age than they will ever be again. It would seem that the school system with a particular concern for fostering creativity would strive to build in as much opportunity for creative performance as possible. This might mean, for example, that some of the changes from the primary to elementary grades would be minimized.

7. Torrance (1961) makes the following suggestions: For the six to eight year old, encourage role playing and participation in adult activities, as this is the age when imagination turns to realism.

a. Create through lessons, stories, or discussion, characters who personify moral principles.

b. Allow the children to create characters and make the others guess who they are.

c. Encourage the child to go as far as he can on a project without help.

d. Display successful projects.

e. Parents and teachers can help plan surprises for others.

The child between eight and ten is increasingly able to use a variety of skills in becoming creative and can discover ways for using his unique abilities creatively.

a. He likes to identify with heroes who have overcome handicaps.

b. He can be encouraged to use his imagination and other skills to help his friends.

c. He can undertake long projects which require sustained interest and effort.

d. His developing awareness of how he differs from others suggest that he needs to have occasion created when he can display his skills and be shown how useful his talents are.

e. This is a time to permit him to play at vocations realistically.

f. Creative activities may be used to help him realize he cannot be good in everything.

Children between the ages of ten and twelve delight in more complex exploration. Girls often prefer to explore through books, whereas boys often prefer firsthand experience.

a. Give opportunities to explore, build, to make and to read on their own.

b. Give opportunities to communicate to others about their experiences, for this is a time for the exploration of talent.

c. Help children learn to persist in difficult tasks.

d. Challenge them to discover universal principles which operate in nature, and among people, and which are helpful in aiding to cope with normal fears.

e. Give experience in planning a course of action and in making decisions.

Teachers often do things which inhibit a child's creativity. Reminders to teachers are:

a. Be respectful of unusual questions.

b. Show children that their ideas have value.

c. Provide opportunities for self-initiated learnings and give credit for them.

d. Provide for periods of non-evaluated practice or learning when the child can feel free to make mistakes.

8. In recent research, Gallagher and Aschner at the University of Illinois (1963) have charted the types of questions teachers ask in their classrooms. It was found that very few teachers asked even a small number of questions leading to divergent thinking or evaluation (for example: "What might have happened if the South had won the Civil War?"). When the teachers' questions in these areas increased

by even a small amount, the percentage of children's answers increased considerably.

9. Ability to transfer learnings is one of the essential elements in stimulating and preserving creativity. The capacity for transfer requires the development of an attitude toward learning and inquiry, and toward the possibility of solving problems on one's own. Suchman (1962) at the University of Illinois has developed a structured teaching procedure which consists of a three-step strategy:

   a. Analysis of episodes to discover important facts.

   b. Analysis of relevance to identify the conditions which are necessary and sufficient to produce the vents, and

   c. Deduction of the relationships to state the rules which express the relationships among the variables.

Teaching of this type contributes greatly toward the preservation of creative abilities.

10. Every individual is capable of some degree of creativity. It may be that the schools can best foster this simply by allowing children the time and freedom to express their own individuality. Valuing of children's unusual ideas is very helpful. Assisting children to early mastery of skills and subjects implants early intrinsic interests. Most children also appear to improve in creative performance when they are placed in situations where creative performance is valued and encouraged. Whatever puts undue strain on a child to that extent weakens his creativeness.

Gifted and Talented Programs for Visitation

Connecticut:

Hartford Public Schools: A special program of advanced intellectual experiences from elementary through secondary schools. The administrative design of special classes for grades 4 through 8 is utilized to stimulate higher level processes among academically gifted pupils in various centers throughout the city. The secondary program is coordinated with the elementary approach and utilizes various designs of advanced placement, honors classes, and seminars to meet the needs of intellectually gifted pupils. For visitation purposes, please contact:

Dr. Robert C. Miles
Assistant Superintendent of Schools
Hartford Board of Education
Hartford, Conn.
Area Code 203, 527–4191

Greenwich Public Schools: A special workshop has been designed at the Hamilton Avenue School to receive intellectually gifted pupils from Grades 4, 5, and 6 for a special program to meet their intellectual needs. The pupils are transported to the Center twice a week for a half-day session to work with specially trained personnel in a workshop setting. The curriculum approach is one of an individualized program for each pupil aimed toward independent study in his special talent area. Visitations may be arranged with:

Thomas J. Benson, Principal
Hamilton Avenue School
Hamilton Avenue
Greenwich, Conn.
Area Code 203, 869–1685

Hamden-New Haven Cooperative Education Center: An Independent Study Project designed to show the effect of independent study on pupils who have displayed certain leadership qualities. The students selected display the following characteristics: giftedness in a sense

that each has a special, outstanding and unique potential and a strong self-determination to succeed, curiosity, sensitivity and imagination. The pupils come from their "home" schools to the center to spend their afternoons in independent study under specially trained teachers. For visitation, please contact:

Robert S. Avery, Director
Hamden-New Haven Education Center
1450 Whitney Avenue
New Haven, Conn.
Area Code 203, 288–7926

Talcott Mountain Science Center: A Title III, Public Law 89-10 project atop Talcott Mountain in Avon, Connecticut. Certain aspects of the program are geared to the intellectually gifted science pupil in the areas of astronomy, geology, meteorology and radio electronics. It is a cooperative, regional project involving a number of school districts, private schools, colleges and private organizations in the Farmington River Valley. For visitation, please contact:

Donald P. LaSalle, Director
Talcott Mountain Science Center
Avon, Conn.
Area Code 203, 677–2482

Brooklyn Public Schools: A special enrichment program for intellectually gifted pupils in grades 5 through 8. Pupils in this rural setting spend specific spans of time with a specially trained teacher for a definitive enrichment process. For visitation, please contact:

Robert Glass
Teacher of the Gifted
Brooklyn School
Brooklyn, Conn.
Area Code 203, 774–9153

Massachusetts:

Brockton Public Schools: The longest continuous program for intellectually gifted pupils in the state. A special class approach used in grades four through six, with specially trained teachers. "Ceiling Unlimited" is the name of the non-graded approach used to receive this pupil into the West Junior High School. For visitation, please contact:

Joseph Plouffe
Director of Special Services
Brockton Public Schools
Brockton, Mass.
Area Code 617, 588–0351

Lexington Public Schools: Many varieties of program designs to meet the needs of the intellectually gifted pupil from elementary through secondary schools. One of the most interesting designs has been its program for "underachieving bright pupils." For visitation, please contact:

Constance Murray, Director
Gifted Child Programs
Lexington Public Schools
Lexington, Mass.
Area Code 617, 862–7500

Brookline Public Schools: A number of interesting designs to meet the needs of superior pupils. This district has been noted for its work in early admissions to schools and for its special class approach. The program is coordinated with an excellent secondary school program. For visitations, please contact:

Ann McDonald
Assistant Superintendent of Schools
Brookline Public Schools
Brookline, Mass.
Area Code 617, 734–1111

Gifted Progam Checklist

√Does your school have written policy covering programming for the gifted and talented?

√Has the school designated a person or persons to supervise the program?

√Are specific schools, departments and groups meeting to consider problems related to the identification, guidance, motivation and teaching of the gifted and talented?

√Does the school make new books, research and articles dealing with the gifted and talented available to teachers?

√Are teachers helped to understand the nature of giftedness, talent, creativity and approaches which will aid in the development of this potential for each individual?

√Have criteria been developed which the staff uses in identifying the gifted and talented?

√Does the school have a systematic, flexible plan of continuous identification?

√Does the school have transferable records as well as a list of the gifted and talented which is readily available to the professional staff?

√Do teachers have the opportunity to observe in other schools known to have well-organized programs for the gifted and talented?

√Are teachers encouraged to report behavior or achievement which may be useful to others in identifying and guiding the gifted and talented?

√Is curriculum planning geared, in part, to the needs and abilities of the gifted and talented?

√Is there appraisal of the curriculum to determine the extent to which it serves the needs of the gifted and talented?

- √Are the needs of the gifted and talented considered in the assignment of the staff and the selection of instructional and supplemental meterials?
- √Are teachers encouraged to do experimental work and to modify classroom procedures to serve the individual and group needs of the gifted and talented?
- √Does the school make it possible for gifted and talented children to pursue areas of interest by adopting special schedules and allowing them use of facilities?
- √Are facilities and materials provided for independent study and problem solving?
- √Are trips, projects and special activities planned with a view toward broadening and challenging the gifted and talented?
- √Are gifted and talented children given in-school and out-of-school opportunities to work with others in their special interest areas?
- √Is there district-wide organized articulation for the education of each gifted child?
- √Does your school have a plan or policy in regard to evaluation of its effort in programming for the gifted and talented?

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